MEETING SUMMARY

CALFED Water Quality Technical Group April 15, 1998 Auditorium, Office Building Number 9, 744 P Street, Sacramento

Water Quality Technical Group:

Present: John Turner, Ted Roefs, Roberta Borgonovo, Lenore Thomas, Linda Mercurio, Roy Wolfe, J.P. Cativiela, Rich Breuer, Peter Dileanis, Tom Maurer, Paul Gilbert-Snyder, John Winther, G. Fred Lee, Brian Bergamachi, Charlie Kratzer, Tom Garcia, Kathy Russick, Nigel Quinn, Wayne Verrill, Carl Lischeske, Tom Zuckerman, Brenda Johnson, Jerry Troyan, Kevin Donhoff, Lynda Smith, Nicole Sandkulla, Douglas Morrison, Robert Brodberg, Manucher Alemi, Elaine Archibald, Peter Standish-Lee, Chris Foe, Les Grober, Neil Dubrovsky, Stephen Murrill,

K.T. Shum, Tom Grovhoug, Bill Jennings, Kati Buehler, and Bob Hultquist

CALFED Team: Rick Woodard, Judy Heath, Paul Marshall, Bruce Macler (EPA)

Welcome, Orientation and Introductions - Rick Woodard began the meeting by welcoming the group, introducing the CALFED staff, and asking self-introductions of the Water Quality Technical Group.

Rick then explained that, as the CALFED Draft Progammatic EIS/EIR is out for review, it is time to embark on advance work for Phase III, the implementation phase of the program. He described the objectives of the meeting; to add further detail to the Water Quality element of the CALFED program. The work will include adding detail to the CALFED water quality problem statements and to the water quality actions; and, prioritizing implementation of the water quality actions identified in the Water Quality Program Plan. In addition, the WQTG will be asked for assistance in recommending linkages to the other CALFED program elements; and, to help develop special projects such as determining how to structure an expert panel to review Delta water quality issues. Rick then went over a letter to the Water Quality Technical Group from Stein Buer, CALFED Implementation Coordinator, requesting the revisions and refinement of the Water Quality Program Plan by the end of June 1998. The revisions would be included in the CALFED Comprehensive Implementation Plan.

The purpose of performing advance work on the implementation phase of the program is to be able to begin investing in water quality corrective actions as early as possible after the beginning of the next program phase, which is scheduled to commence in 1999. It is understood that much of the detailed information that remains to be developed cannot be put together in the space of two or three months. Rather, this is a process that must continue well into the years of program implementation. Indeed, in the time remaining in the current program phase it will not be possible to develop some water quality plans sufficiently to enable investment decisions to be made next year. The focus, simply, is on determining whether there are some water quality projects that can be identified as high priority for early funding, while at the same time planning the steps that will be necessary to develop other activities sufficiently for project investments to be made later in the program.

Work Group Structure and Assignments - Bruce Macler presented an overview of the work that is planned over the next 2½ months to "flesh out" the Water Quality Actions and help secure funding of a prioritized list of actions. The work will also include integration with the actions of the other CALFED programs.

To begin the process, the WQTG was to set up working teams for separate groups of actions.

There would be about 40 hours worth of work for each of the team members over the next 4 months, the bulk of the effort falling within the first 5 weeks. The first draft of the plan is due by May 20, 1998, the scheduled date of the next WQTG meeting. The next iteration of the process is to further refine the work during June and July. A final draft report is due by the end of July.

The small team approach to be implemented in these working groups will require best professional judgement to complete the tasks. Each of the groups is likely to find that there are data gaps and a lack of full details on contaminant source areas and feasibility and costs of remediation. The decisions to be made will rely on the experience of the group and the wealth of knowledge the members bring to the table. Further refinements will be made and data gaps will be filled during Phase III.

Initially the working teams are requested to identify the resources each group has and needs. Teams would identify people that should be a part of the team to provide appropriate expertise and balanced perspective. Each team may select a leader, assign tasks to members, and establish a meeting schedule. CALFED staff will endeavor to attend all team meetings to provide needed support and guidance on the CALFED process.

The charges for each group are documented in a April 2, 1998 CALFED draft document entitled Instructions for Developing Action Item Description Reports. It is envisioned that the reports would have a Title and Summary page, a problem statement, approaches to the solution, feasibility for each approach, and a suggested strategy (Action Plan). It is expected that the action plan for each identified action item would grow from the one page summaries in the Water Quality Program Plan to a total of 9-15 pages for each item, but could be more lengthy if necessary.

After the Instructions document was reviewed, Bruce opened the floor to questions.

• Tom Zuckerman asked how the water quality program was to be integrated in the proposals for congressional funding beginning this month (April).

A list of the proposed Water Quality projects and project descriptions will be copied and sent to each of the WQTG members for information.

Break

• Following the morning break, another question was raised regarding potential conflict of interest. If a person participates with the Water Quality Technical Group in developing recommendations for water quality actions, would that participation disqualify the person and/or person's organization from accepting funding for implementing water quality actions? Rick indicated that he had quite recently sought legal counsel on this issue, and that he intended to provide the group with as specific an answer as possible, and as soon as possible.

Bruce Macler then went over the 25 CALFED water quality actions tentatively grouped by source of contaminant, and invited suggestions for other ways to organize the work. After considerable discussion, it was decided that the groups would be partially divided by parameter type and use. Constituents were placed on five large sheets of paper and WQTG members were given the opportunity to volunteer to join the groups with which each person would prefer to work.

Lunch Break

Over the lunch break, people completed signing up for groups.

Group Formation and Break-Out Session

The following groups were formed:

- Copper, cadmium, zinc, and mercury.
- Diazinon, chlorpyrifos, carbofuran, DDT, Chlordane, Toxaphene and PCBs.
- Salinity and selenium
- Pathogens, turbidity, sediment, and nutrients
- TOC, bromides, and salinity

BREAK-OUT SESSION SUMMARIES The following are summaries from each work group.

Pesticides Work Group

			W	'ill Participate
Present:	Org_	Phone/FAX	<u>e-mail</u> in	WorkGroup(s)
Elaine Archibald	CUWA	(916) 736-3713/3714	awconsult@aol.com	1,2,3
Kati Buehler	NCWA	(916) 442-8333/4035	kbuehler@norcal.water.org	1
J.P. Cativiela	CRIA	(916) 929-3996/0732	jpc@sna.com	1,3
Neil Dubrovsky	USGS	(916) 278-3078/3071	nmdubrov@usgs.gov	1,2
Chris Foe	CVRWQCB	(916) 255-3113/3015	foec@r5s.swrcb.ca.gov	1
G. Fred Lee	GFL&Assoc	(530) 753-9630/9956	Gfredlee@aol.com	
Kathy Russick	SacCounty Stormwater	(916) 874-8656/8693	russickk@pwa.co. sacramento.ca.us	1
Rick Woodard	CALFED Representative	(916) 653-5422/5699	rwoodard@water.ca.gov	

The pesticide group as a whole decided to split into three working groups which would address groups of pesticides or individual problems. The group as a whole considered the ideal membership of the group and the actions the group would take in the short term.

Group 1 - Diazinon, Chlorpyrifos, Carbofuran

Who should participate?

Pesticide registrants

Delta agriculture

Farm Bureau

Urban Stormwater - Urban Pesticide Committee

Orchard agricultural interests

Dept. Pesticide Regulation - Dormant Spray Program

Other DPR staff

Department of Fish and Game

Sacramento River Watershed Program Mike Majeski J.P. Cativiela Val Connor John Tomko

Group 2 - Organochlorine pesticides and PCBs

Who should participate?

Department of Fish and Game
Office of Environmental Health Hazards Assessment (CAL-EPA)
DeltaKeeper
Regional Boards 2&5
Jay Davis, SFEI
State Board Toxic Substances Monitoring Program (Del Rasmussen)

Group 3 - Toxicity of Unknown Origin

NRCS (e.g. Mike McIheney)

Who should participate?

Val Connor
Jeff Miller
Other toxicity labs
Department of Fish and Game
Bruce Thomposon, SFEI
Scott Ogle (laboratory)
J.P Cativiela

Action Item reports will be expected from each group.

Group 1 - Diazinon, chlorpyrifos, carbofuran

Start with the following documents:

Regional Board's "Bay Protection Toxic Hot Spots Cleanup Plan"
UPC, Science Subcommittee
Outline of technical issues
Public outreach plan
DOW, Novartis "Dormant Spray BMP's" brochure

DPR Dormant Spray Program
Carbofuran? (Agricultural applications only)

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Chlorpyrifos Kathy Russick Elaine Archibald Lynda Smith Neil Dubrovsky Chris Foe	Diazinon Kathy Russick Elaine Archibald Lynda Smith Neil Dubrovsky Chris Foe	Carbofuran J.P. Cativiela Steve Murrill Elaine Archibald Lynda Smith Neil Dubrovsky Chris Foe
DDT, Chlordane, Toxaphene, PCBs, etc. Elaine Archibald Lynda Smith Charlie Kratzer Kathy Russick		·

CALFED Bay-Delta Program, Water Quality Common Program Meeting Notes from Diazinon, chlorpyrifos, carbofuran, DDT, Chlordane, Toxaphene, PCBs Working Group Session on April 15, 1998

1. Are all the right people here? Should include:

Steve Shaffer, DFA

Charlie Kratzer

Department of Pesticide Regulation representative

OEHHA representative (Robert Brodberg?)

UC representative (Frank Zalem, director of Integrated Pest Management Program? He has a grant to develop CALFED BMPs)

Kathy Kuivila, USGS, Scott Ogle, Jeff Miller? Chris Foe will liaison with PWT

Brian Finlaysion, DFG? (Brian called earlier and indicated he wanted to participate in a work group) Val Connor?

Kathy Russick will contact the Toxics Subcommittee of the Sacramento River Watershed Program to solicit their involvement.

Urban Pesticide Committee

DPR Dormant Spray Program (Diazinon, chlorpyrifos) - Marshall Lee, Kevin Bennett, Lisa Ross BIOS (grower's organization)

City of Sacramento - (has a grant to look at urban runoff of Diazinon, etc. - \$60K grant)

Environmental Water Caucus

SFEP - Toxics Subcommittee - Bruce Thompson - *Rick will contact him

Bill Crooks

Stella Seipman - from Brian Finlayson's group in DFG

Brian Stuart (Novartis) - Steve Murrill will contact him.

PCOC - Kathy Russick will take the lead on interfacing with this group.

Bill Jennings, Delta Keeper

Delta growers

Farm Bureau

Mike Majeski in relation to airborne contaminants

Jeff Miller - UCD, re: toxicity

Jay Davis - SFEI, in relation to Toxic Substances Monitoring Program data and tissue sampling in Delta and on Sacramento River

Del Rasmussen - Toxic Substances Monitoring Program

Pesticide Management Plan and Management Agency Agreement between SWRCB and DPR (one or two years old)

Dept. Water Resources Compendium of Delta monitoring programs.

The next meeting of the Pesticide group will be held on Wednesday, April 22. The group requested CALFED provide a staff member to facilitate the meeting.

Drinking Water Working Group: Bromide, Total Organic Carbon, Pathogens, Turbidity

Next team meeting: Wednesday, April 29th, 9am-3pm, Sacramento

Brian Bergamaschi	USGS	916 278-3053	bbergama@usgs.gov
John Winther	Delta Wetlands	925 283-4216	dforkel@deltawetlands.com
Bob Hultquist	DHS	916 445-5944	bhultqui@hw1.cahwnet.gov
Roy Wolfe	MWDSC	213 217-6241	rwolfe@mwd.dst.ca.us
Rich Breuer	DWR/MWQI	916 327-1725	rich@water.ca.gov
K.T. Shum	CCWD	925 688-8083	shum_k.t.@slip.net
Jerry Troyan	SRCSD	916 875-9144 troyan	j@pwa.co.sacramento.ca.us
Paul Gilbert-Snyder	DHS	510540-2192	pgilbert@hw1.cahwnet.gov
Carl Lischeske	DHS	916 323-3693	clisches@hw1.cahwnet.gov
Roberta Borgonovo	LWV	415 931-4603	rborgo@igc.apc.org
Bruce Macler*	EPA	415 744-1884 macles	r.bruce@epamail.epa.gov
Elissa Callman	Sacramento	916 433-6635	ecallman@sacto.org

Salinity and selenium team

Peter Standish-Lee	Woodward-Clyde		916 854-2223	pmstand0@wcc.com
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Lenore Thomas	USBR		916 978-5084	lthomas@mp.usbr.gov
Wayne Verrill	DWR/SJVDIP		916 327-1667	wverrill@water.ca.gov
Kevin Donhoff	MWDSC		213 217-6359	kdonhoff@wmd.dst.ca.us
Tom Maurer	USFWS		916 979-2110	thomas_maurer@mail.fws.gov
K.T. Shum	CCWD	0	925 688-8083	shum_k.t.@slip.net
Manucher Alemi*	DWR		916 327-1630	malemi@water.ca.gov
Les Grober	CRWQCB		916 255-3105	lgrober@davis.com
Gail Louis	EPA		415 744-2019	louis.gail@epamail.epa.gov

The group interested in salinity, selenium, turbidity, pathogens, total organic carbon (TOC) and bromide met on April 15th. We began discussions by identifying individual interests and a group lead (Bruce Macler). Interests fell out approximately along the lines of those interested and knowledgeable about salinity and selenium ecological and agricultural issues and those interested in the drinking water problems from turbidity, pathogens, TOC and bromide.

In a general discussion on selenium, it was noted that the two main problem areas of the Delta are the San Joaquin River, from agricultural drainage, and Suisun Bay, from oil refineries. Manucher Alemi and others pointed out the efforts of the San Joaquin Valley Drainage Implementation Program to control selenium on the San Joaquin River. The program has eight committees reviewing data and

developing management approaches. They are considering discharges to SJR from agricultural drains, treatment of agricultural drainage, salt utilization, drainage reuse, pond operations, source control through irrigation management, land retirement and groundwater management. Their reports are due in December 1998. It was apparent that much had been done to describe the problem and the effort for CALFED would be mostly to consolidate the materials into a report. The Region 2 WQCB has been involved in selenium problems in Suisun and San Pablo Bays from oil refining activities. It was recommended that they be involved in this group.

In a discussion on salinity, it was noted that the two sources of concern are from seawater intrusion and from the San Joaquin River. It was recognized that there was a poor understanding of loadings from seawater intrusion and the distinction between seawater and SJR salinity. Contra Costa Water District was thought to be the best repository for information on seawater salinity. On the SJR, a salinity standard of 400 ppm total dissolved solids at Vernalis exists to protect agriculture. Discussion on SJR salinity problems can be found in the Rainbow Report and in Region 5 WQCB reports, which will be acquired for the group.

Following this discussion, it was decided that those interested in selenium and salinity would split off into a separate team, led by Manucher Alemi.

Selenium and Salinity Sub-group Discussion:

K.T. asked what could be done to reduce seawater intrusion. He said CCWD has information it can supply to the sub-committee and that they use the same salinity-outflow relationships that DWR uses in its models.

Manucher said the Drainage Report won't cover implementation -- this will be dealt with after next report is out. He said they are still in Phase I which ends in Sept. 8 committees have been formed to deal with various aspects including a List of Options. There appears to be good cooperation and coordination between the 2 programs.

Leslie Grober said the RWQCB is working on industrial and urban sources of TDS. Category III \$ are available for study of real-time salt management on the SJR, including drainwater release pulsing during peak river flows.

Lenore Thomas asked what overall impact pulsing would have on TDS and salt loads in the SJR; also what is salt load from the Sacramento River? With respect to pulsing, one answer was that those high quality releases from storage would preclude benefits from their use at other times.

Sub-group agreed we should define our own list of agricultural drainage/salinity problems.

Leslie said he would like to see constituent-related problems stated once because for each constituent, the problems are the same within each geographic area, regardless of the source of the constituent. He suggested combining the problem statements in this manner.

Peter Standish-Lee agreed that this was possible. He said that in cases where there are different sources of the problem constituent, the actions can be different, and separated according to source addressed.

Some members volunteered to work on various sources and problems. Rich Brewer volunteered to work on Selenium. K.T. volunteered to work on salinity.

Manucher identified five Water Quality Actions from WQ Plan that fall within purview of our group and suggested we divide them up:

Page	Short Title of Action
16	Salinity from Urban Sources
19	Evaluate TDS from WWTPs
21	Reduce salinity in SJR
25	SJR Water Management
26 .	South Delta Water Management

Peter Standish-Lee volunteered to work on South Delta Water Management.

At this point we ran out of time without completing assignments or setting next mtg. However, Manucher agreed to chair sub-group and convene next meeting or conf call.

Drinking Water Sub-group Discussion:

Those remaining began to discuss drinking water issues for the CALFED process. These revolve around the raw water quality at the various treatment plant intakes and how it affects treatment plant operations and compliance with drinking water regulations. These are different from other water quality issues in that the materials of greatest concern to utilities, i.e., bromide, TOC and turbidity, are not toxicants themselves, but potentially transformable by water treatment into toxicants. They are believed to have little or no effect on the Delta ecosystems. The water qualities necessary to ensure safe water also depend upon the choices of water treatment, which themselves depend on a variety of criteria

not all related to public health. This problem is additionally complex, because it includes speculative considerations for the nature and implications of future drinking water regulations that may influence or determine water treatment alternatives. The California Urban Water Agencies (CUWA) have developed materials on possible implications of some potential regulatory requirements. We will acquire these reports.

There was expressed some concern that the CALFED process was unduly influenced by CUWA and that discussion including a broader range of stakeholders was necessary to ensure an accurate representation of the situation. It was concluded that the team lacked adequate representation from environmental groups, researchers, the agricultural community and an existing Delta Protection Committee. We will solicit their participation.

The primary purpose of drinking water treatment and regulatory requirements is to prevent waterborne microbial disease. Some concern for the type and degree of water treatment is based on current, future and potential requirements for filtration and disinfection of water. These may be based on the occurrence levels of the pathogens *Cryptosporidium* and *Giardia* in the source water. Data on these levels are being generated under EPA's Information Collection Rule and are beginning to become available. It was noted that preliminary results suggest that the Delta has relatively low levels of these organisms.

We began some discussion on the major drinking water diversions and their relationship to treatment plant intakes. 1) Contra Costa Water District has a pumping plant at Rock Slough. It was stated that salinity discharges from Palm Tract have a large effect on water quality from that source. 2) There is USGS evidence that the water quality at the CCWD intake at Old River is primarily affected by Victoria Island agricultural drains at the Highway 4 Old River Bridge. Impacts from the Discovery Bay wastewater treatment plant outfall near the CCWD intake may be minimal. A study on this is due September 1998. If true, this suggests that an action item to address the Victoria Island drains may be effective. 3) Water quality at the North Bay Aquaduct intake on Barker Slough is primarily affected by local agricultural impacts. A watershed management program for this area is under development. 4) The primary water diversion from the Delta is at Clifton Court. It was pointed out, however, that the actual water quality of concern is at the intakes of the treatment plants after transport through the canals and storage in the terminal reservoirs. There is evidence that drainage into the canals and activities at the reservoirs are degrading water quality and leading to problems from algal growth. For the purposes of these analyses, it appears reasonable to also consider water quality problems arising from transport and storage and possible solutions to these problems.

This led into the beginnings of a discussion on agricultural drains and their impact on TOC. It was recognized that not all TOC is the same- some types of organic carbon cause more problems for water treatment than others. Additionally, not all agricultural drains would have equal impacts on water quality at the diversion points. As noted, the drains adjacent to Rock Slough and Old River cause impacts. There are also several drains into and adjacent to Clifton Court and into the canals. These

may have more impact than drains in the northern or western reaches of the Delta. This will be explored further. Data from the Municipal Water Quality Investigations group, USGS studies and other sources will be acquired and considered.

The next meeting of the drinking water team will be Wednesday, April 29th, 9am to 3pm in Sacramento. An agenda will be sent out prior to the meeting. The goal of this meeting will be to complete the problem statement portion of our report. Current, future and possible drinking water regulations will be discussed as a starting point. If the appropriate people are available, current treatment approaches and possible alternatives will be discussed. Data on water quality at the various intakes need to be assembled and discussed. From this, we should be able to develop the problem statement. Therefore, participants should bring whatever materials they can to the meeting.

Copper, Cadmium, Zinc, and Mercury Working Group

This Working Group is comprised of the following people:

John Turner, Department of Fish and Game, (916) 327-3200, jturner@ospr.dfg.ca.gov

Charlie Alpers, USGS, (916) 278-3134, chalpers@usgs.gov

Peter Dileanis, USGS, (916) 278-3089 dileanis@usgs.gov

Joe Domagalski, USGS, (916) 278-3077, joed@usgs.gov

Tom Garcia, County of Sacramento, Stormwater Division, (916) 874-6457 garciat@pwa.co.sacramento.ca.us

Linda Mecurio, Mining Remedial Service, (530) 244-7390, lmercurio@msn.com

Robert Brodberg, Environmental Health Hazard Assessment, (916) 323-4763, rbrodber@sactopo.cahwnet.gov

Mark Stephenson, (408) 633-0253 (DFG- Moss Landing) mstephenson@mlm.calstate.edu

G. Fred Lee, G. Fred Lee, and Associates, (530) 753-9630 gfredlee@aol.com

Linda Mecurio will be requesting data from the Regional Board and will bring data from the Sacramento Watershed Program. Linda will also be looking into costs of remedial mine work to get ballpark figures for cost analysis and effectiveness.

Peter Dileanis has river data from above the Shasta Dam to the Freeport area on the Sacramento River. The data is not real time data, but does represent good grab samples of the river. According to Peter, there is a report coming out in May that will address copper attenuation in Lake Shasta. Apparently the preliminary results show that much of the copper that enters Lake Shasta does not exit the lake. The data also deals with speciation of copper as the constituent travels down stream.

Joe Domagalski also said that the USGS has data on the river. Robert Brodberg will assist in interpretation of data. Several other people were not able to attend but will help with the final products.

Tom Garcia will head up the group and pass out assignments to the other members. Tom will also look for urban data on copper.

Linda has some data on cadmium and zinc, but most of the data is above Shasta Dam. There seems to be a lack of data on the cadmium and zinc issues. Paul Marshall will ask the Regional Board for the basis of the 303 (d) listing for these constituents. The group will be looking for information on bioavailability of metals to facilitate determining effects and to assist in preliminary prioritization of remedial projects.

The next meeting will be by phone on April 29, 1998. Tom will call each of the members and set up a conference call through his office. At that time, they will review the list of members to decide which other people need to be in the group and next steps towards a draft product.

Nutrients and Sediment Working Group

Judy Health facilitated the group discussing nutrient loading and sediments. The group consisted of Linda Smith (Metropolitan Water District), Charlie Kratzer (USGS), Doug Morrison (USFWS), and Judy Heath (CALFED).

It was decided we need more expertise to address nutrients and sediment actions. There are six water quality actions involving nutrients and sediment. The group recommended a person from US EPA and the Regional Board. Also someone to represent the Cattleman's Association to represent dairies (BMP's for control of nutrients). It was also suggested that NRCS be represented.

In general the group believes that the action language for nutrients and sediment needs to reflect where the problems are, to take into consideration ecological as well as drinking water. There were comments that action items may need to be modified. Some of the action items were really toxicity issues and maybe should be placed in that category. At least one action was identified as obsolete - Action 4, page 19. This action says to reduce the impairment of environmental beneficial uses in the Delta Region and its tributaries associated with ammonia from wastewater treatment plant discharges through improved treatment. The group felt that treatment facilities have the problem resolved because of conversion of ammonia to nitrates in the treatment process.

The group seek clarification to determine if it is their role to evaluated whether action items need to be expanded, modified, or eliminated.

The group believed that the databases need to be evaluated to determine the extent of the problem, the geographic scope of the problems, and where data gaps exist. They identified the need to hire support staff who would have the role of tracking down data sets and compiling information for the group review and evaluation.

The group set up a meeting on April 21 at 10:00 in room 1148. This meeting may have to be rescheduled due to conflicts (some of us did not have our meeting calendars with us).

Charlie Kratzer agreed to contact the Regional Board and NRCS to have them join our group. Linda Smith agreed to talk to her management to determine if they could hire an intern. Judy Heath agreed to contact our management about hiring students.